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ABSTRACT

The most significant criterion for classifying spelling errors is whether the erroneous form yields the same pronunciation as the intended word. Five categories can be discerned: (1) non-identical pronunciation, non-existent English word; (2) non-identical pronunciation, confusion of existing words; (3) identical pronunciation, English spelling rules broken; (4) identical pronunciation, confusion of homophones; (5) identical pronunciation, overgeneralization of existing English patterns. These can be further subdivided on the basis of omissions, additions, substitutions and transpositions of letters and whether the letter used is pronounced or can represent the intended phoneme in another native English word. An analysis of a corpus of 1,758 English spelling errors made by Finns and Swedish-speaking Finns reveals that most spelling errors made by Finns are errors of types (1) and (2), due largely to perceptual difficulties, whereas the errors made by Swedish Finns are primarily overgeneralizations of existing English patterns. Whereas Finns make more spelling errors than Swedish Finns at an intermediate stage of learning, they seem to have mastered the English spelling system better than the Swedes at an advanced level. One explanation for this might be that Finns, who, unlike Swedes, have a near-phonemic spelling system in their first language, depend more on the written form of words when they memorize them. (Author/AM)

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SPELLING ERRORS AND FOREIGN LANGUAGE LEARNING STRATEGIES

To analyse spelling errors may not be as futile an occupation as one might at first think. The actual description and classification of errors is perhaps not at all that interesting, but a thorough explanation of the causes of spelling errors may yield information about language learning strategies. It is with this aim in mind that I have analysed a number of different spelling errors in English made by Finns and Swedish-speaking Finns. The advantage here is that spelling, even English spelling, is not a particularly complex task, and the errors are probably easier to systematize than lexical or syntactic errors, since semantic aspects do not complicate the picture very much.

The material used in this investigation comes from tests made primarily at two different levels, an intermediate level, where the pupils, who were not particularly academically inclined, had read English for 4-5 years and, from the entrance examination to the Department of English, where the relatively advanced candidates had read English for 7-8 years and, almost without exception, had received a very high mark in the national matriculation examination in English.[1]

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One common method of classifying spelling errors is on the basis of omissions, additions, substitutions and transpositions of letters.[2] However, such criteria are hardly the most significant, at least when dealing with errors made by foreign learners. To me the basic criterion seems to be whether the erroneous form yields the same pronunciation as the intended word or a different one. These two main categories would demand that the basic unit of analysis be the word with the letter/phoneme considered a subsidiary unit of analysis. It seems more logical to start from the larger unit and only afterwards analyse the letter-sound relationship in the form of omissions and substitutions.

I have devised the following classification of spelling errors:

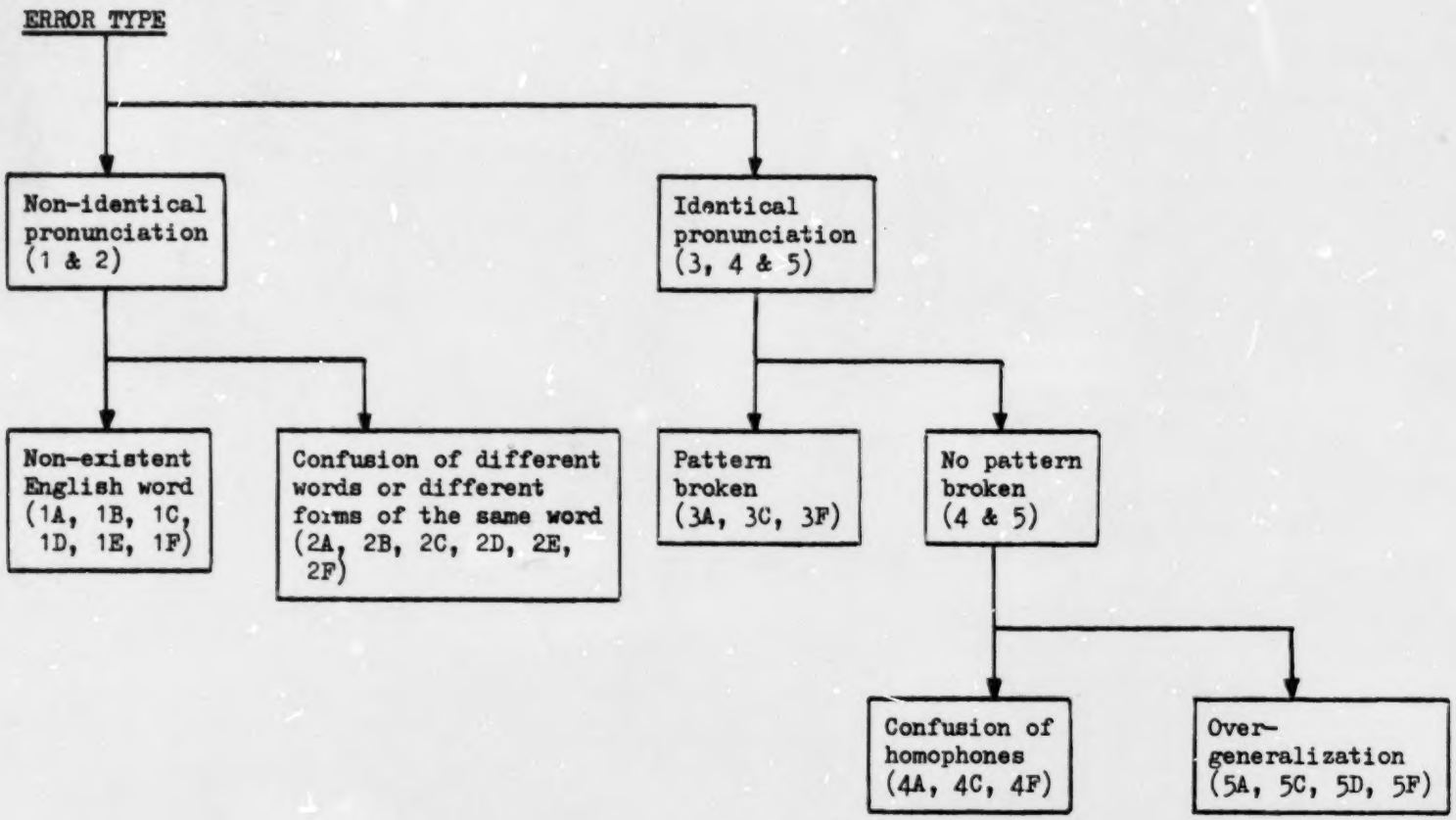
Categories of spelling errors

1 = Non-identical pronunciation, non-existent English word (*jatting pro chatting)
2 = Non-identical pronunciation, confusion of different words or different forms of the same word (*the pro they, *has pro had)
3 = Identical pronunciation, breaking of English spelling rules (*sais pro says)
4 = Identical pronunciation, confusion of homophones (*weather pro whether)
5 = Identical pronunciation, overgeneralization of existing English pattern (*receave pro receive)

A = Omission of letter not pronounced (*stayd pro stayed) (3A)
B = Omission of sounded letter (*conrol pro control) (1B)
C = Addition of letter (*where pro were) (4C)
D = Transposition of letters (*quiet pro quite) (2D)
E = Substitution of a letter which in native English words does not represent the phoneme of the intended word (*wery pro very) (1E)
F = Substitution of a letter which may stand for the phoneme of the intended word (*deside pro decide) (5F)

A graphic illustration of this classification can be seen on the next page, where also those error types occurring in the corpus are explicitly mentioned. Note that the corpus comprises only tests of writing skills (compositions, translations and questions on vocabulary), not dictations. Most spelling errors in compositions and translations originate from a late stage in the communication chain: the student fails to find the right graphemic realization of the word. When the learner has progressed beyond the initial stage of learning, spelling errors due to faulty perception and discrimination are relatively rare in written tests, although they still, of course, may occur, particularly in areas known to cause difficulties to particular groups of learners. In dictation, on the other hand, errors are very often due to faulty perception and discrimination, and the versions of words produced often differ considerably from the original. Although

CATEGORIES OF SPELLING ERRORS


ERROR TYPE
Non-identical pronunciation (1 & 2)
Identical pronunciation (3, 4 & 5)
Non-existent English word (1A, 1B, 1C, 1D, 1E, 1F)
Confusion of different words or different forms of the same word (2A, 2B, 2C, 2D, 2E, 2F)
Pattern broken (3A, 3C, 3F)
No pattern broken (4 & 5)
Confusion of homophones (4A, 4C, 4F)
Over-generalization (5A, 5C, 5D, 5F)

"pure" spelling errors do occur, dictation is not, contrary to what has sometimes been maintained, primarily a test of spelling, but a test of listening comprehension, and some investigators have even made it a principle to disregard "pure" spelling errors when marking a dictation.

The system of Finnish spelling differs from that of Swedish, and particularly from the English system in that it is near-phonemic, with a very good correspondence between sounds and symbols. Whether this constitutes an advantage to Finns or not, as compared with Swedes, is not clear, and at any rate an attempt to answer the question must take into account the differences between English, Finland-Swedish and Finnish phonetics and phonology.

The corpus shows the following distribution of errors:

Table 1 Finnish/Swedish number of spelling errors, categories 1 and 2

Finnish	1A	1B	1C	1D	1E	1F	2A	2B	2C	2D	2E	2F	Total
Int.	31	25	26	10	148	12	2	14	-	5	35	14	322
Adv.	8	44	27	3	51	25	2	4	5	-	18	10	197

Swedish	1A	1B	1C	1D	1E	1F	2A	2B	2C	2D	2E	2F	Total
Int.	15	6	14	16	54	8	-	9	-	-	20	12	154
Adv.	8	47	16	1	45	28	4	5	10	3	21	9	197

Table 2 Finnish/Swedish number of spelling errors, categories 3,4 and 5

Finnish	3A	3C	3F	4A	4C	4F	5A	5C	5D	5F	Total
Int.	5	10	5	13	1	12	26	16	2	63	153
Adv.	4	13	39	-	-	5	49	74	-	78	262

Swedish	3A	3C	3F	4A	4C	4F	5A	5C	5D	5F	Total
Int.	5	26	9	19	3	9	16	13	3	51	154
Adv.	10	14	50	2	-	2	55	60	-	126	319

Int. = Intermediate level (N Fi.= 58, N Sw.= 42)
Adv. = Advanced level (N Fi.=231, N Sw.=214)

The total number of errors is 934 for the Finns (475 intermediate + 459 advanced) and 824 for the Swedes (308 intermediate + 516 advanced). Let us first see whether the types of errors made change with the progress of learning. Obviously spelling errors gradually decrease in frequency (not only are the numbers of the intermediate group much smaller, but the texts analysed at the advanced level are about twice the length of those at the intermediate level), but there is also a difference in kind. At the intermediate stage there is a large variety of spelling errors, but those predominating are type 1, where the erroneous form has a pronunciation different from the intended form. Type 1E (substitution of a letter that cannot stand for the intended phoneme) is especially frequent: more than a quarter of all spelling errors at the intermediate stage belong to this group, whereas the percentage for the advanced group is less than 10. At the advanced stage, on the other hand, type 5 (overgeneralization of existing patterns) has increased from 25 to 45% of the total number of errors.

The two language groups differ slightly from each other in that the dominance of 1E errors is much more pronounced with the Finns, especially at the early stage. Swedes, on the other hand, tend to make errors of type 5F in particular, i.e., they substitute a letter which in other contexts may stand for the intended phoneme, the resulting word still having the same pronunciation as the intended word. Primarily because of the frequency of errors of this type, Swedes at the advanced level make more, not fewer errors than Finns, although the intermediate learners present a reverse picture. In fact, we here seem to have different rates of learning: the Finns have considerable initial difficulties, but once they have read English for 7 or 8 years they have learnt how to spell as well as and even better than the Swedes.

If the Finns progress more quickly in learning English spelling: from a poor beginning, due largely to perceptual problems, to a state where the total number of errors is smaller than that of the Swedes, a plausible hypothesis might be that they attach more importance than Swedes to the written forms of words. This view might get some support from the fact that the type of error that is mainly responsible for the difference is 5F, where Swedes at the input stage store the word in a phonologically correct form, but then produce errors at the output stage by substituting another letter, which is usually a perfectly reasonable

guess, for the correct one. Greater dependence on written forms in learning English would also contribute to explaining the conspicuously bad results for Finns, as compared with Swedes, in both listening comprehension tests (compared with reading comprehension tests) in the national matriculation examination and the partial dictation test in the entrance tests (compared with all other parts of the test).[3] For, if a word is stored in the brain in the form /nurse/, not /nəːs/, the string of letters being memorized as a corresponding string of Finnish phonemes, it takes longer to activate it in the recognition process of listening. If this is true, it would contribute to making Finns reach the stage of automation[4] later than Swedes. Under the time pressure of a listening or speaking situation the result of lacking automation is wrong comprehension or very staccato speech with disturbing pauses. Thus, although it may not be possible to prove this, it seems probable that Finns more than Swedes store vocabulary items in their written form, or rather, they store the written form according to the principles of L1, not L2.

A main reason for the Finns' dependence on written forms would be the near-phonemic spelling system: Finns are more used to relying on the spelling when storing a word phonologically. With English words, the bad correspondence between spelling and pronunciation makes such a procedure highly uneconomical, to say the least.

Individual errors of types other than 5F may also reveal differences between the two language groups. We can look at a number of errors where the problems of spelling from a contrastive point of view should be very much the same for Finns and Swedes. I have chosen the pairs v-w, w-wh, and the silent -e as examples. There are fairly clear differences in frequency, although the scarcity of the material prevents very far-reaching conclusions:

Table 3 Finnish/Swedish number of spelling errors

Type of error	v-w (1E) Ex. *wery	w-wh (5A or 5C) *whrist	Silent -e (5A or 5C) *hous
Intermediate	12/22	2/7	16/20
Matric. exam. (N Fi=100;Sw=100)	1/6	-/1	25/29
Advanced	1/6	1/1	18/45

Although a larger corpus would definitely be needed here, the trend is for the Swedes to make more errors of these types. Why this should be so is not immediately obvious, but again a plausible explanation, or part of it, is that Finns are more concerned with written forms. More light on this question might be shed by a vocabulary test which has been given to a fairly large number of Swedish and Finnish learners at the gymnasium stage of education (6-7 years of English). The results from this test are, however, not yet available.

Spelling is an area where, at least at first sight, L1-interference does not seem to be a major consideration. Relatively few spelling errors are clearly ascribable to direct interference from a corresponding similar word in the mother tongue. Errors of this type are rare even in language learners with an L1 closely related to L2 (as Swedish and English), although they do occur occasionally, as in *artificiell for artificial, *temporar for temporary. It seems that spelling is an area where the student early becomes fully aware that the L2 has a special system different from the spelling system he is used to, and that in learning to master this system he does not meet many great organizational problems.[5] To learners with a Roman alphabet in their L1, most of both the symbols and the correspondences between English sounds and symbols are already familiar. The Roman alphabet is a closed system with only a small number of symbols and a limited number of possible correspondences between these symbols and sounds.

Does the comparative absence of errors due to such direct associative interference from corresponding L1-items then mean that the learner's L1 plays almost no part at all in learning how to spell English? If this is so, then it would not be possible to discern other than random differences in frequency between the spelling errors made by Finns and Swedes. But in fact there are different patterns of error frequency, in that at one particular stage of learning Finns tend to make a larger number of errors of one type, Swedes of another type (see the tables above). The most striking instance, however, is the frequent occurrence of errors by Finns in rendering English stops. Such errors are very rare among Swedish learners, who have little difficulty in distinguishing between /p,t,k/ and /b,d,g/. From a corpus of more than 1700 errors, 70 of this type were made by Finns, but only 5 by Swedes. It is quite evident that the reason for the many Finnish misspellings of this

kind must be sought in the L1 - in this case perceptual difficulties for Finnish learners due to the lack of a distinction corresponding to that made in the Germanic languages.[6] Or, in other words, these errors are due to L1-interference at the input stage. It seems reasonably safe to conclude that at least spelling errors that reflect perceptual difficulties at the input stage frequently show clear phonemic L1-interference.[7]

One error, which was made by nine Swedes but no Finn out of 100 matriculation examination candidates in each group was to render the English word false, Sw. falsk, by *falsh. The strategy for these learners, who apparently had an extremely vague idea about the English word, was obviously to produce an English-looking form, starting out from the Swedish word. They applied their knowledge that the English cluster sh usually corresponds to the Swedish sk. This error thus seems to be due to a combination of L1- and L2-interference. (Another possibility would be to ascribe this error to interference from German. However, the candidates' knowledge of German at this stage is generally very superficial, and other instances of possible German interference are extremely rare, Also, the Finns at this stage have read as much, or as little, German as the Swedes.)

More examples of this kind would mean that it would hardly be possible to maintain a rigid distinction between L1-interference (interlingual interference) and L2-interference (intralingual interference). The distinction may well be an artificial, though convenient, oversimplification.[8] Some instances may be clear cases of one or the other, but even within individual words a constant interplay between the two is taking place during the creative process that learning a new language is. We need a clearer understanding of this interplay and, in general, of the learner's analogical processes through which he arrives at erroneous, or, for that matter, correct forms. To linguists, there is a great temptation to exaggerate the importance of language and language systems, and to make convenient oversimplifications at the expense of the strategies of the learner, which, to be sure, are not easily amenable to analysis.

When a learner is confronted with a new spelling system in another language, he begins to note similarities and differences to his L1 and to other languages he knows. He very soon learns that there are some

fixed patterns in English spelling, some being similar to, others different from, those of his mother tongue, and a constant interplay between perceived similarities and differences within the L2 on the one hand and between L1 and L2 on the other begins to take place. Mere phonological contrastive studies of the two systems do not lead to an explanation of errors, but together with an analysis of errors they can help to ascertain how differences and similarities are perceived by learners with the same mother tongue. These perceived similarities and differences vary greatly depending not only on the L1 and other possible languages the learner may know, but also on many factors such as the stage of learning, the age and motivation of the learner, the learning situation etc.

However, the learner does not push his L1 away entirely when learning how to spell another language. At the early stages of learning, L1-interference is clearly more evident in the learner's interlanguage than at later stages. But L1-interference in spelling errors probably appears in combination with L2-interference in more subtle and complex ways than has been realized. And I think there is good reason to believe that this is true not only of spelling, but of pronunciation, lexis and syntax as well.[9]

NOTES

1 An earlier work on the differences between Finns and Swedish Finns learning English is Ringbom & Palmberg (eds.) (1976).

2 Some previous works dealing with spelling errors are Brown (1970), Bø (1973), Kühlwein (1970), Oller & Ziahosseiny (1970) and Spache (1940).

3 See Ringbom (1976), p. 4.

4 Skill theory, in which automation figures prominently, is an interesting, relatively recent development in psycholinguistics which may contribute much to our knowledge of foreign language learning. See, for instance, Levelt (1975).

5 So far nobody has fully explored the distinction between organizational problems, occurring at the early stage of learning another language, where the learner tries to organize his data into understandable categories, and the later stage of choice problems, where

the learner has been able to simplify his task into making choices between a set of clearcut alternatives. The general distinction between choice problems and organizational problems was made by Galanter (1966).

6 Finnish is a language with basically only one series of stops, /p,t,k/, possibly also /d/, which has a marginal status since it occurs only in certain medial positions. /b/ and /g/ do not occur in native Finnish words. See e.g. Suomi (1976).

7 For the difficulties Finns have with Germanic stops, see Suomi (1976) and Nygård in this volume.

8 Cf. Legenhausen (1975), p. 29: "Es ist ... unbestritten, dass L1- und L2-Interferenz als die wichtigsten Fehlerursachen gelten müssen, die Rückschlüsse auf Lernerstrategien zulassen. Man muss sich jedoch fragen, was mit dieser Etikettierung der Fehler gewonnen ist."

9 I am grateful to Jaakko Lehtonen and Geoffrey Phillips for comments on this paper.

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